

NC/QC/YD/2020-21/P7-2-C1

Date: 07-09-2020

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).

{Project*: Improvements to roads, drains and other developmental works in Ward No- 01 &02. Under SWM head in Chief Minister Nava Nagarothana grants of Yelahanka division.(Package -07).}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s SMLP Asphalts, Prop : B B Umesh, Bangalore.

PHYSICAL TESTS ON CEMENT

Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	162 min	Shall not be less than 30 min
2	Final setting time	270 min	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	2.15%	Not to exceed 10.0%
4	Soundness test (by Le-Chatelier's method)	2.08mm	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	28.74 N/Sq mm	Shall not be less than 27 N/Sqmm

The result of the materials tested meets the standards and hence can be used for the work.

NC/QC/YD/2020-21/P7-2-CE1

Date: 14-09-2020

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).

{Project*: Improvements to roads, drains and other developmental works in Ward No- 01 &02. Under SWM head in Chief Minister Nava Nagarothana grants of Yelahanka division.(Package -07).}

Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s SMLP Asphalts, Prop : B B Umesh, Bangalore.

PHYSICAL TESTS ON CEMENT

Grade * : 53,
Type * : O.P.C

TABLE 1.1:

SL No	Name of Test	Test Results	Requirements as per IS 8112-1989
1	Initial setting time	158 min	Shall not be less than 30 min
2	Final setting time	270 min	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	1.86 %	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	1.94 mm	Shall not be more than 10 mm
5	Compressive strength a) 3 days (average of three results)	28.53 N/Sq mm	Shall not be less than 27 N/Sqmm

The result of the materials tested meets the standards and hence can be used for the work.

NC/QC/YD/2020-21/P7-2-CB4

Date: 30-09-2020

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 07days Compressive Strength).

{Project*: Improvements to roads, drains and other developmental works in Ward No- 01 &02. Under SWM head in Chief Minister Nava Nagarothana grants of Yelahanka division.(Package -07).}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s SMLP Asphalts, Prop : B B Umesh, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M₂₀

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm ²	Maximum Load in K.N	Compressive Strength (N/ mm ²)	Avg. Value
AE-1 1	001	23-09-20	30-09-20	07	22500	365	16.22	16.15
	002	"	"	"	"	370	16.44	
	003	"	"	"	"	355	15.78	

The result of the materials tested meets the standards and hence can be used for the work.

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NC/QC/YD/2020-21/P7-2-CB2A

Date: 16-10-2020

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).

{Project*: Improvements to roads, drains and other developmental works in Ward No- 01 &02. Under SWM head in Chief Minister Nava Nagarothana grants of Yelahanka division.(Package -07).}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s SMLP Asphalts, Prop : B B Umesh, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M₂₀

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm ²	Maximum Load in K.N	Compressive Strength (N/ mm ²)	Avg. Value
1	001	18-09-20	16-10-20	28	22500	515	22.89	22.81
	002	"	"	"	"	500	22.22	
	003	"	"	"	"	525	23.33	

The result of the materials tested meets the standards and hence can be used for the work.

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NC/QC/YD/2020-21/P7-2-CB8A

Date: 31-10-2020

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28days Compressive Strength).

{Project*: Improvements to roads, drains and other developmental works in Ward No- 01 &02. Under SWM head in Chief Minister Nava Nagarothana grants of Yelahanka division.(Package -07).}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s SMLP Asphalts, Prop : B B Umesh, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm
Grade of Concrete* : M₂₀

TABLE 1.1:

Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in mm ²	Maximum Load in K.N	Compressive Strength (N/ mm ²)	Avg. Value
AE-1	001	03-10-20	31-10-20	28	22500	500	22.22	22.44
	002	"	"	"	"	510	22.67	
	003	"	"	"	"	505	22.44	

The result of the materials tested meets the standards and hence can be used for the work.

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NC/QC/YD/2020-21/P7-2-GSB3

Date: 12-10-2020

TEST REPORT ON GRANULAR SUBBASE MIX (GRADATION TEST)

Sub: To conduct tests on GSB (Grade-V) mix.

{Project*: Improvements to roads, drains and other developmental works in Ward No- 01 &02. Under SWM head in Chief Minister Nava Nagarothana grants of Yelahanka division.(Package -07).}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s SMLP Asphalts, Prop : B B Umesh, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
75.00	100.00	100
53.00	98.45	80-100
26.50	81.30	55-90
9.50	54.25	35-65
4.75	42.65	25-50
2.36	17.35	10-20
0.85	8.70	2-10
0.425	3.90	0-5

The result of the materials tested meets the standards and hence can be used for the work.

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Date: 19-10-2020

TABLE 1.2

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)- 1963 (Reaffirmed on 2002) & Requirements as per IS 383-1970 & M o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	27.14 %	Not more than 30.00 %
2.	Combined Flakiness and Elongation index, %	28.96 %	Not more than 35.0 %
3.	Water absorption, %	0.42 %	Not more than 2.0 %
	Plasticity Index, %	NP	Not more than 6.0 %

The result of the materials tested meets the standards and hence can be used for the work.





NC/QC/YD/2020-21/P7-2-W10

Date: 31-10-2020

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.
{Project*: Improvements to roads, drains and other developmental works in Ward No- 01 &02. Under SWM head in Chief Minister Nava Nagarothana grants of Yelahanka division.(Package -07).}

Ref.: Material testing/PMC/20-21,
Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s SMLP Asphalts, Prop : B B Umesh, Bangalore.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, V Revision-2013
53.00	100.00	100
45.00	96.45	95-100
26.50	---	-
22.40	72.15	60-80
11.20	56.25	40-60
4.75	36.85	25-40
2.36	21.10	15-30
0.600	16.25	8-22
0.075	3.65	0-5

The result of the materials tested meets the standards and hence can be used for the work.

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NC/QC/YD/2020-21/P7-2-CD1

Date: 29-10-2020

1. TEST REPORT ON COARSE AGGREGATE:

Sub: Testing of Coarse Aggregate used in Dense Graded Bituminous Macadam.

{Project*: Improvements to roads, drains and other developmental works in Ward No- 01 & 02. Under SWM head in Chief Minister Nava Nagarothana grants of Yelahanka division.(Package -07).}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s SMLP Asphalts, Prop : B B Umesh, Bangalore.

TABLE 1.1 :

SL No	Test conducted	Test Results	Tests Conforms to IS 2386(Part I to IV)- 1963 (Reaffirmed on 2002) & Requirements as per IS 383-1970 & M.o.R.T.H Specification, V Revision -2013.
1.	Aggregate Impact Value	23.09%	Not more than 27.00 % for DBM
2.	Combined Flakiness and Elongation index, %	26.74%	Not more than 35.0 %
3.	Water absorption, %	0.42%	Not more than 2.0 %
4.	Specific gravity	2.62	-----
5.	Soundness	6.89 %	Max. 12 % in Sodium Sulphate

The result of the materials tested meets the standards and hence can be used for the work.



NC/QC/YD/2020-21/P7-2-DBM5

Date: 09-11-2020

1. TEST REPORT ON BITUMINOUS MIXES :

(BITUMEN EXTRACTION TEST & GRADATION TEST)

Sub: To determine the percentage of bitumen and gradation for DBM mix sample.

{Project*: Improvements to roads, drains and other developmental works in Ward No- 01 & 02. Under SWM head in Chief Minister Nava Nagarothana grants of Yelahanka division. (Package -07).}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s SMLP Asphalts, Prop : B B Umesh, Bangalore.

TEST RESULTS

A. Type of Construction : Dense Graded Bituminous Macadam.

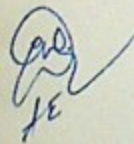
1. The bitumen content obtained after subjecting the sample for Bitumen Extraction test = 4.52 %

2. Gradation Test

TABLE 1.1

Sieve Size, mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Gradation requirement as per Table 500-10 of MORTH Specifications- 2013 DBM (Grading - 2)
37.5	100	100
26.5	96.40	90-100
19.0	82.90	71-95
13.20	71.45	56-80
4.75	46.05	38-54
2.36	38.65	28-42
0.300	19.20	7-21
0.075	6.75	2-8

The result of the materials tested meets the standards and hence can be used for the work.



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NC/QC/YD/2020-21/P7-2-DS9

Date: 12-11-2020

1. TEST REPORT ON BITUMINOUS MIXES : (STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for DBM mix sample.

{Project*: Improvements to roads, drains and other developmental works in Ward No- 01 &02. Under SWM head in Chief Minister Nava Nagarothana grants of Yelahanka division (Package -07). }

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s SMLP Asphalts, Prop : B B Umesh, Bangalore.

TEST RESULTS

Table 1: Properties of DBM (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Dense Bituminous Macadam, Grade-2 as per M.o.R.T&H (IV Revision)-2001 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1254	900
2	Marshall Flow at 60°C, mm.	3.42	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.

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NC/QC/YD/2020-21/P7-2-BS2

Date: 19-11-2020

1. TEST REPORT ON BITUMINOUS MIXES :

(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.

{Project*: Improvements to roads, drains and other developmental works in Ward No- 01 & 02. Under SWM head in Chief Minister Nava Nagarothana grants of Yelahanka division. (Package -07).}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s SMLP Asphalts, Prop : B B Umesh, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.O.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1352	900
2	Marshall Flow at 60°C, mm.	3.44	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.

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NC/QC/YD/2020-21/P7-2-BS6

Date: 24-11-2020

1. TEST REPORT ON BITUMINOUS MIXES :
(STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.

{Project*: Improvements to roads, drains and other developmental works in Ward No- 01 &02. Under SWM head in Chief Minister Nava Nagarothona grants of Yelahanka division.(Package -07).}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
 Yelahanka Sub Division,
 BBMP, Bangalore.

Name of the Agency/Contractor*: M/s SMLP Asphalts, Prop : B B Umesh, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.O.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1352	900
2	Marshall Flow at 60°C, mm.	3.40	2.0 - 4.0

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The result of the materials tested meets the standards and hence can be used for the work.

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NC/QC/YD/2020-21/P7-2-BS8

Date: 25-11-2020

1. TEST REPORT ON BITUMINOUS MIXES : (STABILITY OF BITUMINOUS MIX)

Sub: To determine the stability of bituminous mix for BC mix sample.

{Project*: Improvements to roads, drains and other developmental works in Ward No- 01 &02. Under SWM head in Chief Minister Nava Nagarothana grants of Yelahanka division.(Package -07).}

Ref.: Material testing/PMC/20-21,

Report Required for: Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP, Bangalore.

Name of the Agency/Contractor*: M/s SMLP Asphalts, Prop : B B Umesh, Bangalore.

TEST RESULTS

Table 1: Properties of BC (Gr-2) Mix

Sl. No.	Test Property	*Test results obtained by Marshall method	Requirements of Bituminous Concrete, Grade-2 as per M.o.R.T&H (V Revision)-2013 Specifications
1	Marshall Stability (75 blows) (At 60°C), kgs.	1364	900
2	Marshall Flow at 60°C, mm.	3.54	2.0 - 4.0

The result of the materials tested meets the standards and hence can be used for the work.

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